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ABSTRACT

Pursuant to the provisions of the National School Lunch Act and Nutrition Amendments of 1977, Tennessee instituted a statewide nutrition education program aimed at educators, school food service personnel, and children in schools and child care institutions. Establishment of an evaluation team early in the program development process proved beneficial in that the evaluators helped develop measurable program objectives, and were able to assist in needs assessment and in the measurement of the base-line conditions prior to the program's implementation. A comparison of the nutritional knowledge and nutritional practices of students in 48 elementary schools revealed that, in a majority of the grade levels evaluated, students who had participated in the program less than a year exhibited greater knowledge and better practices than did students in schools where the program had not been implemented. (Author/PGD)

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A CHANCE TO DO IT RIGHT: ASSESSING THE IMPACT ON PARTICIPANTS OF A STATE-WIDE NUTRITION EDUCATION PROGRAM

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A CHANCE TO DO IT RIGHT: ASSESSING THE IMPACT ON PARTICIPANTS OF A STATE-WIDE NUTRITION EDUCATION PROGRAM

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Program evaluators decry the fact that in entirely too many instances they are invited to enter the scene at a point too late in the life of a project to permit them to do their best work. For example, program objectives (if written) may be in a form that makes them difficult if not impossible to measure; the program director may limit assessment data either directly or indirectly to data s/he chooses to provide; and, in the worst possible case, the project may be underway so that the possibility of gathering baseline data has been eliminated.

The authors of this paper have had the unusual and highly satisfying opportunity during the past two years to build a state-wide evaluation from its inception, working with the state program coordinator to construct measurable program objectives based on needs identified in a state-wide needs assessment, specifying an appropriate evaluation design, working with the team of curriculum specialists who developed objectives for students and accompanying instructional materials, designing a series of assessment instruments, and then using these instruments to test a state-wide sample both before and after program implementation. In short, the evaluators had the chance to do it right.

The Tennessee Nutrition Education and Training (NET) Program is a component of a national effort to develop a coordinated nutrition education program for children from preschool through Grade 12. This effort has received federal funding through the U.S. Department of Agriculture. Origins of the program can be traced to Public Law 95-166, the National School Lunch Act and Nutrition Amendments of 1977, which

provided under Section 19 for a program of "Nutrition Education and Training." This legislation authorized funding to carry out a nutrition information and education program through a system of grants to state agencies to provide for (a) training in nutrition for educators and school food service personnel, (b) training in food service management for school food service personnel, and (c) conducting nutrition education activities in schools and child care institutions.

Early in 1979, the evaluators worked closely with the state coordinator to develop broad goals and more specific objectives for the NET program in Tennessee. A needs assessment involving public school personnel had been conducted the previous year, and the needs identified were addressed in the program plan. Moreover, the NET objectives were written in terms that made it possible for the evaluators to assess the extent to which they had been achieved as the program evolved.

Evaluation Procedures

During the 1979-80 academic year, a group of faculty and students at The University of Tennessee, Knoxville (UTK) spent four months identifying, and then validating via consultant review, a set of nutrition education goals and objectives to be attained by students in Grades K-12 in Tennessee. The team included specialists in nutrition and food sciences; human development; consumer studies; early childhood, elementary, secondary, and adult education; and measurement and evaluation. Early in 1980, the same team of specialists constructed developmentally appropriate instructional materials for use by teachers in Grades K-6.

A series of assessment instruments for students, their parents and teachers, school administrators, and food service personnel was devised to correspond to the goals and objectives framework. Because previous assessments of achievement associated with nutrition education programs have been criticized for dealing only with knowledge and neglecting attitudes and practices of program participants, affective

and behavioral as well as cognitive components were included in the assessment instruments for use in Tennessee. Eleven different instruments were constructed: forms for students at five developmental levels (Grades K-1, 2-3, 4-6, 7-9, and 10-12), teachers at two levels (elementary and secondary), food service personnel in two categories (managers and workers), school administrators, and parents. A measure of nutrition knowledge was included in nine of the instruments (all but those for administrators and food service workers). All instruments contained self-report measures of nutrition practices and attitudes as well as perceptions of nutrition education. In addition, an observation-based measure of eating behavior (plate waste) was designed for use with the five student groups.

A pretest-posttest control group design was used to assess the impact on participants of the implementation of Tennessee's nutrition education curriculum. During April 1980, the evaluators sent trained field assistants to elementary and secondary schools in each of the state's nine development districts to administer the assessment instruments, thus collecting baseline data on nutrition knowledge, attitudes, and practices and perceptions of nutrition education. There were 48 schools involved in the assessment. In each development district, two elementary schools were designated as treatment schools (i.e., teachers, food service personnel, and an administrator from each designated to receive training during Summer 1980 in the use of the curriculum materials); two elementary schools were designated as control schools (i.e., no training in nutrition education provided for school personnel until Summer 1981). Because instructional plans for Grades 7-12 were not slated to be developed until subsequent years, assessment in the secondary schools provided baseline data for future evaluation efforts as well as input into the needs assessment for the projected curriculum development.

No systematic differences between responses in treatment and control schools were observed in the initial testing. After less than a year's experience with the program

(an instructional plan designed to effect change in knowledge, attitudes, and practices over the 13-year school experience), students in treatment schools reflected superiority over their peers in control schools. Students in treatment schools were superior in knowledge at Grades K, 1, 4, and 6 (a majority of the grades tested). They also were superior in attitudes at Grades 1, 3, 4, and 6 (again a majority of the grades tested). Superiority of treatment school students was reflected in practices for Grades 4 and 6. Thus, some differences favoring the students in the treatment group were found for students in five of the seven relevant grade levels.

In several respects, this evaluation was a conservative one. For example, the evaluation was based on the field test copy of the instructional plan, a document that subsequently has been revised and refined. The amount of training received by school personnel (one-day workshops) was an additional limitation. Furthermore, because this was the first year for use of the plan, students had been exposed to less than one school year of the plan; this limitation is particularly critical because the model for the plan is a sequential and integrated 13-year program. The results of the evaluation are particularly striking in consideration of these limitations and may be seen as evidence of the strength and effectiveness of both the treatment and the evaluation plan.

Evaluation Constraints

From this project description, one might conclude that if only program evaluators are given "a chance to do it right," the task is a relatively simple one. A closer look at the situation, however, reflects the fallacy of this generalization.

In fact, the chance to do it right involved far more than being in the right place at the right time. The advantages in the situation often came disguised as problems to be solved, and there were tradeoffs inherent in the choices associated with each opportunity. The result was a situation in which the evaluators actively created "a

chance to do it right." Although the specifics were unique to this situation, the general pattern is one that may be used by other educational evaluators to create "a chance to do it right."

Establishing a good professional relationship with the state program coordinator was a key to gaining the flexibility to develop an adequate evaluation design. The evaluators assisted the state program coordinator with the task of devising measurable objectives for Tennessee's State Plan for Nutrition Education. This process facilitated the development of confidence in the relationship and helped establish a foundation for improvement of future evaluation endeavors. Collection of baseline data, switching from only a pretest-posttest design to a control group design, and development of instruments compatible with program objectives all were modifications from the original plan that were made possible by the relationship that was established with the state program coordinator.

Another key to program success was the identification of specific program objectives. At the time the evaluation contract for this project was awarded, objectives had not been identified. However, through working with the state program coordinator and establishing a structural as well as a functional relationship between the evaluation project and a second project funded specifically for development of student objectives and an instructional plan, the evaluators were able to provide input that facilitated the evaluation task. The two projects had different project directors and different staffs, but there was coordination between the two not just through communication between the project directors but also through a small core group of personnel involved in both projects. These persons had technical expertise in program content as well as in evaluation methodology. Thus, the advantages of having an independent evaluation team were combined with the advantages of having evaluators with first-hand understanding of and opportunity for input into program development.

Limitations in project time frames often are problematic, and this nutrition education evaluation was no exception. The difficulty was confounded by the necessity for coordination between the two projects (objectives and evaluation). In fact, although the total time available for doing the evaluation was tight, this constraint was compounded by the inherent interdependence of the two projects. Differences in priorities within the two projects posed potential difficulties, but this disadvantage was turned into an advantage in some respects. Having a core group of personnel involved in both projects facilitated resolution of potential difficulties; the interaction within and between staffs of the two projects and the sharing of resources provided a flexibility that would have been impossible to achieve otherwise. Although the plan resulted in heavy demands on the individuals involved across the two projects, the "time-sharing" concept applied to project personnel facilitated accomplishment of the overall task.

Another characteristic of the situation that was both an advantage and a disadvantage was the interdisciplinary nature of the project. The involvement of professionals from several disciplinary areas and eight different academic units was important to optimal accomplishment of the task. The practical difficulties of coordinating a group with such different perspectives, working styles, and schedules was no small consideration. Although there were temptations to limit the diversity represented--or at least to divide into relatively homogeneous teams, the effectiveness of the process and the product were a function of the extent of the truly interdisciplinary work involved.

Perhaps the most pervasive problem in a comprehensive large-scale evaluation is that of maintaining effective communication among all of the participants. In this project, the management team had to keep communication channels open among faculty in several departments in each of two colleges. Public school officials and administrators, and later teachers and food service personnel, all had to be convinced of the

importance of their participation in the evaluation. Field assistants who actually traveled to schools throughout the state to conduct the assessment had to be trained to convey program purposes accurately to the administrators, teachers, and students from whom they were to collect data. The state program coordinator and her staff had to be briefed continuously concerning evaluation activities so they could lend support if questions or problems that arose in local schools were brought to their attention. The comprehensiveness of the evaluation, which was its greatest strength, created the need for an effectively functioning communication network of formidable proportions.

Conclusion

The resulting evaluation project was not a perfect one at all. In some ways, it illustrates a textbook model of program evaluation, but to look beneath the surface brings into focus a variety of potentially serious difficulties. Being in the right place at the right time is important to good program evaluation; it is a necessary condition--but not a sufficient one. Equally important are the willingness and ability to identify potential weaknesses and turn them into strengths in the evaluation process. Each project has its own unique constraints, but the sensitivity of educational evaluators to the idea that "a chance to do it right" is created rather than just given is an important step toward good program evaluation.